Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A fused polycrystalline material comprising Al_2O_3 and Y_2O_3, wherein at least a portion of the Al_2O_3 is transitional Al_2O_3, and wherein at least a portion of the Al_2O_3 and Y_2O_3 are present as a complex $Al_2O_3 \cdot Y_2O_3$.

2. (Original) The fused polycrystalline material according to claim 1, wherein the complex $Al_2O_3 \cdot Y_2O_3$ exhibits a garnet crystal structure.

3. (Original) The fused polycrystalline material according to claim 1, wherein the complex $Al_2O_3 \cdot Y_2O_3$ exhibits a perovskite crystal structure.

4. (Original) The fused polycrystalline material according to claim 1, wherein the complex $Al_2O_3 \cdot Y_2O_3$ exhibits a microstructure comprising dendritic crystals.

5. (Original) The fused polycrystalline material according to claim 4, wherein the dendritic crystals have an average size of less than 2 micrometers.

6. (Original) The fused polycrystalline material according to claim 1 comprising at least 50 percent by weight of the Al_2O_3.

7. (Original) The fused polycrystalline material according to claim 6, wherein the complex $Al_2O_3 \cdot Y_2O_3$, exhibits a garnet crystal structure.

8. (Original) The fused polycrystalline material according to claim 6, wherein the complex $Al_2O_3 \cdot Y_2O_3$, exhibits a perovskite crystal structure.

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9. (Original) The fused polycrystalline material according to claim 6, wherein the complex $Al_2O_3 \cdot Y_2O_3$ exhibits a microstructure comprising dendritic crystals.

10. (Original) The fused polycrystalline material according to claim 9, wherein the dendritic crystals have an average size of less than 2 micrometers.

11. (Original) A fused polycrystalline particle comprising Al_2O_3 and Y_2O_3, wherein at least a portion of the Al_2O_3 is transitional Al_2O_3, and wherein at least a portion of the Al_2O_3 and Y_2O_3 are present as a complex $Al_2O_3 \cdot Y_2O_3$.

12. (Original) The fused polycrystalline particle according to claim 11, wherein the complex $Al_2O_3 \cdot Y_2O_3$, exhibits a garnet crystal structure.

13. (Original) The fused polycrystalline particle according to claim 11, wherein the complex $Al_2O_3 \cdot Y_2O_3$, exhibits a perovskite crystal structure.

14. (Original) The fused polycrystalline particle according to claim 1, wherein the complex $Al_2O_3 \cdot Y_2O_3$ exhibits a microstructure comprising dendritic crystals.

15. (Original) A plurality of fused polycrystalline particles according to claim 11.

16. (Original) The plurality of fused polycrystalline particles according to claim 15 comprising at least 50 percent by weight of the Al_2O_3, based on the total weight of the respective particle.

17. (Original) A plurality of particles having a specified nominal grade, wherein at least a portion of the plurality of particles are particles according to claim 16.

18. (Original) The plurality of particles having a specified nominal grade according to claim 17, wherein the complex $Al_2O_3 \cdot Y_2O_3$, exhibits a garnet crystal structure.

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19. (Original) The plurality of particles having a specified nominal grade according to claim 17, wherein the complex $Al_2O_3 \cdot Y_2O_3$, exhibits a perovskite crystal structure.

20. (Original) The plurality of particles having a specified nominal grade according to claim 17, wherein the complex $Al_2O_3 \cdot Y_2O_3$, exhibits a microstructure comprising dendritic crystals.

21. (Original) The plurality of particles having a specified nominal grade according to claim 20, wherein the dendritic crystals have an average size of less than 2 micrometers.

22. (Original) The plurality of particles having a specified nominal grade according to claim 17, wherein the specified nominal grade is at least one of an ANSI, FEPA, or JIS standard.

23. (Original) The plurality of fused polycrystalline particles according to claim 16 comprising at least 75 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline particle.

24. (Original) The plurality of fused polycrystalline particles according to claim 16 comprising at least 85 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline particle.

25. (Original) The plurality of fused polycrystalline particles according to claim 16 comprising, by weight, the Al_2O_3 in a range from 40 to 90 percent by weight and the Y_2O_3 in a range from 60 to 10 percent by weight, based on the total weight of the respective fused polycrystalline particle.

26. (Original) A fused polycrystalline material comprising (a) alpha alumina having an average crystallite size in a range from 1 to 10 micrometers, and (b) complex Y_2O_3·metal oxide present as a distinct crystalline phase.

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27. (Original) The fused polycrystalline material according to claim 26 comprising at least 50 percent by weight of the Al_2O_3.

28. (Original) A method of making fused polycrystalline material, the method comprising:

heating a fused polycrystalline material comprising Al_2O_3 and Y_2O_3, wherein at least a portion of the Al_2O_3 is transitional Al_2O_3, and wherein at least a portion of the Al_2O_3 and Y_2O_3 are present as a complex $Al_2O_3 \cdot Y_2O_3$ to provide the fused polycrystalline material according to claim 26.

29. (Original) A method of making fused polycrystalline material according to claim 26, the method comprising:

providing a melt comprising Al_2O_3 and Y_2O_3;

cooling the melt to directly provide the fused polycrystalline material.

30. (Original) A fused polycrystalline abrasive particle comprising (a) alpha alumina having an average crystallite size in a range from 1 to 10 micrometers, and (b) complex Y_2O_3·metal oxide present as a distinct crystalline phase.

31. (Original) A plurality of fused polycrystalline abrasive particles according to claim 30.

32. (Original) A plurality of abrasive particles having a specified nominal grade, wherein at least a portion of the plurality of abrasive particles are fused polycrystalline abrasive particles according to claim 31.

33. (Original) The plurality of abrasive particles according to claim 32, wherein at least a portion of the plurality of fused polycrystalline abrasive particles have an average crystallite size in a range from 1 to 8 micrometers.

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34. (Original) The plurality of abrasive particles according to claim 32, wherein at least a portion of the plurality of fused polycrystalline abrasive particles have an average crystallite size in a range from 1 to 5 micrometers.

35. (Original) The plurality of abrasive particles according to claim 32, wherein at least a portion of the plurality of fused polycrystalline abrasive particles comprise at least 50 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

36. (Original) The plurality of abrasive particles according to claim 32, wherein at least a portion of the plurality of fused polycrystalline abrasive particles comprise at least 75 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

37. (Original) The plurality of abrasive particles according to claim 32, wherein at least a portion of the plurality of fused polycrystalline abrasive particles comprise at least 85 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

38. (Original) The plurality of abrasive particles according to claim 32, wherein at least a portion of the plurality of fused polycrystalline abrasive particles comprise, by weight, the Al_2O_3 in a range from 40 to 90 percent by weight and the Y_2O_3 in a range from 60 to 10 percent by weight, based on the total weight of the respective fused polycrystalline abrasive particle.

39. (Original) The plurality of abrasive particles according to claim 32, wherein the specified nominal grade is at least one of an ANSI, FEPA, or JIS standard.

40. (Original) The plurality of fused polycrystalline abrasive particles according to claim 31 comprising at least 50 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

41. (Original) The plurality of fused polycrystalline abrasive particles according to claim 31 comprising at least 75 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

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42. (Original) The plurality of fused polycrystalline abrasive particles according to claim 31 comprising at least 85 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

43. (Original) The plurality of fused polycrystalline abrasive particles according to claim 31 comprising, by weight, the Al_2O_3 in a range from 40 to 90 percent by weight and the Y_2O_3 in a range from 60 to 10 percent by weight, based on the total weight of the respective fused polycrystalline abrasive particle.

44. (Original) An abrasive article comprising binder and abrasive particles, wherein at least a portion of the abrasive particles are fused polycrystalline abrasive particles according to claim 31.

45. (Original) The abrasive article according to claim 44, wherein the abrasive article is selected from the group consisting of a bonded abrasive article, a coated abrasive article, and a non-woven abrasive article.

46. (Original) The abrasive article according to claim 44, wherein the fused polycrystalline abrasive particles comprise at least 75 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

47. (Original) The abrasive article according to claim 44, wherein the fused polycrystalline abrasive particles comprise at least 85 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline based abrasive particle.

48. (Original) The abrasive article according to claim 44, wherein the fused polycrystalline abrasive particles comprise, by weight, the Al_2O_3 in a range from 40 to 90 percent by weight and the Y_2O_3 in a range from 60 to 10 percent by weight, based on the total weight of the respective fused polycrystalline abrasive particle.

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49. (Original) A method of making fused polycrystalline abrasive particles, the method comprising:

heating a plurality of fused polycrystalline particles comprising Al_2O_3 and Y_2O_3, wherein at least a portion of the Al_2O_3 is transitional Al_2O_3, and wherein at least a portion of the Al_2O_3 and Y_2O_3 are present as a complex $Al_2O_3 \cdot Y_2O_3$ to provide the fused polycrystalline abrasive particles according to claim 31.

50. (Original) The method according to claim 49, wherein the fused polycrystalline abrasive particles comprise at least 75 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

51. (Original) The method according to claim 49, wherein the fused polycrystalline, abrasive particles comprise at least 85 percent by weight Al_2O_3, based on the total weight of the respective fused polycrystalline abrasive particle.

52. (Original) The method according to claim 49, wherein the fused polycrystalline abrasive particles comprise, by weight, the Al_2O_3 in a range from 40 to 90 percent by weight and the Y_2O_3 in a range from 60 to 10 percent by weight, based on the total weight of the respective fused polycrystalline abrasive particle.

53. (Currently Amended) A method of making fused polycrystalline abrasive particles according to claim 31, the method comprising:

providing a melt comprising Al_2O_3 and Y_2O_3;

shaping the melt into precursor particles;

cooling the precursor particles to directly provide fused polycrystalline particles comprising Al_2O_3 and Y_2O_3, wherein at least a portion of the Al_2O_3 is transitional Al_2O_3, and wherein at least a portion of the Al_2O_3 and Y_2O_3 are present as a complex $Al_2O_3 \cdot Y_2O_3$; and

heating the fused polycrystalline particles comprising Al_2O_3 and Y_2O_3 to provide the fused polycrystalline abrasive particles ~~according to claim 31~~.

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54. (Original) The method according to claim 53 further comprising grading the fused polycrystalline abrasive particles to provide a specified nominal grade including the fused polycrystalline abrasive particles.

55. (Original) A method of making fused polycrystalline abrasive particles, the method comprising:

providing a melt comprising Al_2O_3 and Y_2O_3;

cooling the melt to provide fused polycrystalline material comprising Al_2O_3 and Y_2O_3, wherein at least a portion of the Al_2O_3 is transitional Al_2O_3, and wherein at least a portion of the Al_2O_3 and Y_2O_3 are present as a complex $Al_2O_3 \cdot Y_2O_3$;

crushing the fused polycrystalline material comprising Al_2O_3 and Y_2O_3 to provide particles comprising Al_2O_3 and Y_2O_3; and

heating the particles to provide the fused polycrystalline abrasive particles according to claim 31.

56. (Original) The method according to claim 57 further comprising grading the fused polycrystalline abrasive particles to provide a specified nominal grade including the fused polycrystalline abrasive particles.

57. (Original) The method according to claim 57 further comprising grading the fused polycrystalline particles comprising Al_2O_3 and Y_2O_3 prior to heating to provide a specified nominal.

58. (Original) A method of abrading a surface, the method comprising:

contacting at least one fused polycrystalline abrasive particle according to claim 26 with a surface of a workpiece; and

moving at least one of the fused polycrystalline abrasive particle or the contacted surface to abrade at least a portion of the surface with the fused polycrystalline abrasive particle.

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